

issue in this case.¹ The '529 Patent is entitled "Dispersions," and relates to dispersions of titanium dioxide particles in oil. It contains twenty-eight claims.

A number of claim terms from the patent were disputed, and in December 2008 the Court held a *Markman* hearing to resolve those issues. *See* D.I. 125 (*Markman* Opinion). Construction of the relevant terms are discussed in more detail below.

Shortly after the Court held the claim construction hearing, on December 31, 2008, Kobo submitted to the PTO a request to reexamine the '660 Patent. Certification of Peter A. Sullivan ("Sullivan Cert.") Ex. D. Kobo asserted that the '660 Patent should not have been granted over the prior art pursuant to 35 U.S.C. § § 102 and 103. Subsequently, on November 3, 2009, Kobo submitted a request to the PTO to reexamine the '529 Patent. On motion by Kobo, this Court stayed the instant proceedings pending reexamination of these patents.

By mid-2011 the reexamination proceedings had concluded and Plaintiff moved to reopen these proceedings. On June 1, 2011, this action was reopened for further proceedings.

Presently before the Court are two motions for summary judgment by Kobo. In the first, Kobo alleges that the '529 Patent is invalid for failure to meet the written description and enablement requirements of 35 U.S.C. § 112(a) regarding the claim term "substantially transparent to visible light." The second motion alleges that the '529 Patent is unenforceable due to alleged inequitable conduct by Plaintiff in reexamination proceedings before the PTO.

B. Background of the Technology

The products at issue in this case are mixtures of titanium dioxide particles and oils known as dispersions. Dispersions of titanium dioxide are used in the manufacture of, for

¹ The parties have indicated that Plaintiff is no longer pursuing its claims as to the '056 Patent, and all of the claims of the '660 Patent have been rejected by the United States Patent and Trademark Office ("PTO") on reexamination.

example, sunscreens and sunscreen cosmetics. Sunscreens are applied topically to the skin to reduce sunburn and other damage (such as premature aging) associated with ultra violet (“UV”) radiation, both UVA radiation and UVB radiation.

There are two common classes of sunscreen – chemical and physical. Chemical sunscreens contain chemical compounds that absorb UV light. Physical sunscreens, on the other hand, contain materials such as titanium dioxide that scatter light. Some of the challenges involved in creating physical sunscreens include difficulties in mixing a sufficient amount of active ingredient, *e.g.*, titanium dioxide particles, to provide adequate UV protection while avoiding the whitening effect associated with increased levels of that ingredient. Said another way, with respect to physical sunscreens, the sunscreen dispersion should have enough active ingredient to shield the skin from UV light while allowing visible to pass through (and, thus, appear invisible -- not white² -- on the skin).

C. The ‘529 Patent

The ‘529 Patent was issued by the PTO on February 4, 1997. The specification identifies the invention as relating to dispersions of titanium dioxide particles with the following ingredients: an oil, particles of titanium dioxide having an average size from 0.01 to 0.15 micron (or 10 to 150 nm), and an organic dispersing agent for the particles. The claimed dispersions have a solids contents of greater than 40% by weight. The dispersions of the ‘529 Patent are “substantially transparent to visible light” and substantially absorbent to UV light (that is, it has a maximum extinction coefficient in the UV range of wavelengths of at least 40 liters per gram per centimeter). Thus, according to the specification, the dispersions of the

² Such as the sunscreen seen on a white-nosed lifeguard at the beach.

'529 Patent are suitable for use in a sunscreen formulation. In this regard, the ability to maintain transparency to visible light while blocking UV light is an important feature.

Of the '529 Patent's twenty-eight claims, twenty-one are directed to a dispersion of titanium dioxide in oil, and the remaining seven are directed to a method of creating the dispersion.

Independent claim 1, directed to an oil dispersion, reads as follows:

An oil dispersion comprising an oil, particles of titanium dioxide having an average size of from 0.01 to 0.15 micron and an organic dispersing agent for said particles, the amount of said particles being such that the dispersion has a solids content of greater than 40 percent by weight and said dispersion being substantially transparent to visible light and substantially absorbent to UV light so that the dispersion has a maximum extinction coefficient (E_{max}) in the ultra violet range of wavelengths of at least 40 liters per gram per cm.

'529 Patent, claim 1. Dependent claims 2 through 21 all ultimately depend on claim 1. '529 Patent, col. 14, line 32 to col. 16, line 3.

Independent claim 22, directed to a method for the manufacture of an oil dispersion, reads as follows:

A method for the manufacture of an oil dispersion which comprises milling particulate titanium dioxide in the presence of a particulate grinding medium in an oil and in the presence of an organic dispersing agent for said titanium dioxide in said oil in which the amount of said titanium dioxide is such that the dispersion has a solids content of greater than 40 percent by weight and continuing said milling for a period of time such that the particulate titanium dioxide has an average of 0.01 to 0.15 micron and that the dispersion obtained has a maximum extinction coefficient in the ultra violet range of wavelength of at least 40 liters per gram per cm.

'529 Patent, col. 16, lines 4-16. Dependent claims 23-28 all ultimately depend on claim 22. *Id.* at col. 16, lines 17-33.

According to Plaintiff's expert, a person of ordinary skill in the art would understand that an oil dispersion in the context of the '529 Patent claims refers to a stable dispersion of

titanium dioxide particles in an oil. The dispersions claimed in the ‘529 Patent can be used as intermediates for final products such as sunscreens and sunscreen cosmetics. Tooley Decl. at ¶ 11. The oil dispersions are more easily and uniformly introduced into cosmetic products as opposed to simply adding titanium dioxide powders, as the powders tend to agglomerate and are more difficult to handle. *Id.* at ¶¶ 11-13.

The dispersions of the ‘529 Patent were sold under the trade names Solaveil and Tioveil. *Id.* ¶ 12. The first generation was initially sold under the Tioveil name and was launched at the beginning of the 1990s.³ Tioveil was a 40% titanium dioxide dispersion. Kobo 56.1 at ¶ 69. The next generation of products were sold under the name Tioveil 50, which, according to Croda, were developed to improve upon the existing transparency of the original Tioveil product. This was followed by the third generation of commercial products that sold under the trade name Solaveil Clarus. Clarus, according to Croda, was similarly developed to improve upon the transparency of the then-existing products.

Croda’s development of the Clarus line of products gave rise to United States Patent No. 7,101,427 (the “‘427 Patent”), which claims particulate metal oxides suitable for use in sunscreen products. The ‘427 Patent claims an advance in dispersion transparency by narrowing the particle size distribution. Specifically, while the ‘529 Patent discloses a preferred embodiment having a size distribution of 80-100% of particles within the range of 10 nm to 150 nm (thus, 20% of the particles could exceed 150 nm), the ‘427 Patent states that it is preferred that none of the particles exceed 150 nm. According to the inventors of the ‘427 Patent, this patent represented an improvement in transparency and tighter particle size distribution control than the ‘529 Patent.

³ To the extent there is any dispute about the date it is irrelevant to the motion.

C. Claim Construction

At the *Markman* hearing in this case, the parties contested the meanings of several terms, including the terms “substantially transparent to visible light,” “particles of titanium dioxide,” “organic dispersing agent,” and “oil.” *Id.* at 4, 7, 13, 15. The Court construed the term “substantially transparent to visible light” to mean “light in the visible range of the spectrum can transmit through the dispersion when applied in use.” *Id.* at 17. The Court noted that the dispersion must be substantially transparent to visible light when applied in use on skin as opposed to its appearance in a jar, finding that “[i]t is clear that the transparency during use, not necessarily transparency in the jar, is a significant feature of the invention.” *Id.* at 16-17. The Court adopted Plaintiff’s proposed construction of “particles of titanium dioxide,” construing the term broadly as “particles that include titanium and oxygen” and without limitations such as hydrophilic or hydrophobic and regardless of the type of coating employed on the particle. *Id.* at 7-12. The disputed term “organic dispersing agents” was construed to cover all organic dispersing agents without limitation as to type. *Id.* at 15. The Court also construed the term “oil” to include all cosmetically acceptable oils, including synthetic fluids like silicone. *Id.* at 6-7.

D. The Reexamination of the ‘529 Patent

As noted above, on November 3, 2009, Kobo submitted to the PTO a request for *ex parte* reexamination of the ‘529 Patent in light of the prior art including several Japanese patents (“Sunstar”, “Ishihara” and “Pola Chem II”), several U.S. patents (“Inoue”, Iwaya”, Tiejien”, and “Fukui”), and a British patent (“Stansfield”). Sullivan Aff. (D.I. 234) Ex. E. The PTO reexamined the ‘529 Patent, and the examiner initially rejected all of its claims as obvious over the Sunstar reference in view of the prior art listed above. *Id.* In particular, the

examiner reviewed the various components and titanium dioxide in the Sunstar composition and concluded that the 40% or greater titanium dioxide as recited in claim 1 of the '529 Patent would have been obvious to one skilled in the art. While the examiner recognized that Sunstar did not expressly state that the compositions were substantially transparent to visible light, substantially absorbent to UV light and having an extinction coefficient value as recited in the claims, the examiner asserted that these were inherent properties of the titanium dioxide dispersions of Sunstar. Sullivan Aff. Ex. F at 4.

The Examiner's rejection occurred in April 2012. Shortly thereafter in June, the examiner conducted an interview with Croda representatives and Dr. Tooley. Hutz Decl. Ex. 3. The examiner's interview summary noted that "[t]he discussion was on the differences between the claimed dispersion and Sunstar's cosmetic composition, which did not necessarily possess the combination of the properties recited in claim 1." *Id.* On June 26, 2012, in response to the non-final rejection, Croda submitted material to the PTO seeking withdrawal of the rejection. The response included the declaration of one of its scientists, Dr. Ian Tooley, discussed in more detail *infra*. *Id.* at Ex. F. The PTO thereafter withdrew the rejections on the claims and issued a reexamination certificate. In the Reasons for Allowance, the examiner stated as follows:

The claimed oil dispersion with its unique properties recited in the claims is a useful and flexible intermediate product for making final products including sunscreen cosmetics (Tooley Decl. ¶¶ 11-13). Sunstar only teaches a sunscreen cosmetic prepared by the conventional method of mixing silicone oil, fine particulate titanium dioxide and 12-hydroxystearic acid. Since Sunstar's composition requires the presence of a cosmetic powder (such as pigments), which would mask the fine particulate titanium dioxide, the sunscreen cosmetic of Sunstar would not possess the substantial transparency to visible light and absorbance to UV light that the dispersion has a $E_{(max)}$ in the UV range of wavelengths of

at least 40 1/g/cm as recited in the instant claims, especially when the fine particulate titanium dioxide is not dispersed correctly (Tooley Decl. ¶¶ 14-24). As such, it would not have been obvious for one of ordinary skill in the art to modify Sunstar's semi-solid sunscreen cosmetic, particularly excluding the essential cosmetic powder, to form the oil dispersion as claimed.

Sullivan Aff. Ex. R. at 2.

II. ANALYSIS

A. Legal Standard – Summary Judgment

Summary judgment is governed by Federal Rule of Civil Procedure 56, and is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 322, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). Under Rule 56, a fact is material if it influences the outcome of the action under the governing substantive law. *See Anderson v. Liberty Lobby*, 477 U.S. 242, 248, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). A material fact raises a “genuine” issue “if the evidence is such that a reasonable jury could return a verdict” for the nonmoving party. *Healy v. N.Y. Life Ins. Co.*, 860 F.2d 1209, 1219 n. 3 (3d Cir.1988).

The moving party bears the initial burden of proving that no genuine issue of material fact is in dispute. *Celotex*, 477 U.S. at 323. Once the moving party has carried this burden, the non-moving party must present evidence that a genuine fact issue compels a trial. *Id.* at 324. The non-moving party must offer admissible evidence that establishes a genuine issue of material fact, *id.*, not just “some metaphysical doubt as to the material facts.” *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586, 106 S.Ct. 1348, 89 L.Ed.2d 538

(1986). Its opposition must rest on “facts in the record and cannot rest solely on assertions made in the pleadings, legal memoranda, or oral argument.” *Berkeley Inv. Group, Ltd. v. Colkitt*, 455 F.3d 195, 201 (3d Cir. 2006).

In determining whether there is a disputed material fact, “[t]he nonmoving party's evidence is to be believed, and all justifiable inferences are to be drawn in [that party's] favor.” *Hunt v. Cromartie*, 526 U.S. 541, 552, 119 S.Ct. 1545, 143 L.Ed.2d 731 (1999) (quoting *Anderson*, 447 U.S. at 255). The Court shall not “weigh the evidence and determine the truth of the matter,” but need only determine whether a genuine issue necessitates a trial. *Anderson*, 447 U.S. at 249. If the non-moving party fails to demonstrate proof beyond a “mere scintilla” of evidence that a genuine issue of material fact exists, then the Court may grant summary judgment. *Big Apple BMW v. BMW of North America*, 974 F.2d 1358, 1363 (3d Cir. 1992).

B. Legal Standard – Written Description and Enablement

One of the statutory conditions for patentability under the Patent Act is adequate disclosure of the invention. As set forth in Section 112 of Title 35,

[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112. The Federal Circuit has interpreted § 112 as imposing a number of separate disclosure requirements, two of which are relevant here. The first is known as the written description requirement, found in the first sentence of Section 112, which requires that the specification contain an adequate “written description of the invention.” 35 U.S.C. § 112; *see also Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1353–54 (Fed. Cir. 2010) (en

banc) (“[A] separate requirement to describe one’s invention is basic to patent law. Every patent must describe an invention. It is part of the quid pro quo of a patent; one describes an invention, and, if the law’s other requirements are met, one obtains a patent. The specification must then, of course, describe how to make and use the invention (*i.e.*, enable it), but that is a different task.”).

“[T]he purpose of the written description requirement is to ‘ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art as described in the patent specification.’” *Id.* It “serves both to satisfy the inventor’s obligation to disclose the technologic knowledge upon which the patent is based and to demonstrate that the patentee was in possession of the invention that is claimed.” *Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005).

As stated by the Federal Circuit, “[t]he test for sufficiency of a written description is whether the disclosure clearly allow[s] persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Crown Packaging Technology, Inc. v. Ball Metal Beverage Container Corp.*, 635 F.3d 1373, 1380 (Fed. Cir. 2011) (internal quotations omitted, alterations in original). The “hallmark of written description is disclosure,” and a court examining the sufficiency of a written description must make “an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Ariad*, 598 F.3d at 1351. To pass muster under that inquiry, “[t]he disclosure must reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Crown*, 635 F.3d at 1380 (internal quotations omitted, alteration in original). Said another way, “the specification must describe an invention understandable

to that skilled artisan and show that the inventor actually invented the invention claimed.”

Ariad, 598 F.3d at 1351.

“[D]etermining whether a patent complies with the written description requirement will necessarily vary depending on the context.” *Id.* The requirement “must be applied in the context of the particular invention and the state of the knowledge.” *Capon v. Eshhar*, 418 F.3d 1349, 1358 (Fed. Cir. 2005). The inquiry into the written description requirement is a question of fact, however, it is “amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the non-moving party.” *Boston Scientific Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361 (Fed. Cir. 2011) (quoting *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1307 (Fed. Cir. 2008)). A party challenging a patent based upon the written description requirement must provide clear and convincing evidence that persons skilled in the art would not recognize in the disclosure a description of the claimed invention. *Centocor Ortho Biotech, Inc. v. Abbott Laboratories*, 636 F.3d 1341, 1347 (Fed. Cir. 2011) (presumption of validity overcome only by clear and convincing evidence).

Separate from the written description requirement is the “enablement” requirement codified in § 112. “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” *ALZA Corp. v. Andrx Pharmaceuticals, LLC*, 603 F.3d 935, 940 (Fed. Cir. 2010) (quoting *Genentech Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997)). “Enablement is not precluded where a ‘reasonable’ amount of routine experimentation is required to practice a claimed invention, however, such experimentation must not be ‘undue.’” *Id.* In *In re Wands*, 858 F.2d 731, 735 (Fed. Cir. 1988), the Federal Circuit set

forth the following factors that a court may consider when determining if a disclosure requires undue experimentation:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

858 F.2d at 737. A court need not consider all of the *Wands* factors in its analysis, but rather, a court is only required to consider those factors relevant to the facts of the case. *See Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1213 (Fed. Cir. 1991).

Importantly, to fulfill the enablement requirement, the full scope of each claim must be enabled. *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

Enabling the full scope of each claim is part of the quid pro quo of the patent bargain. A patentee who chooses broad claim language must make sure the broad claims are fully enabled. The scope of the claims must be less than or equal to the scope of the enablement to ensure that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.

Id. It is not sufficient for the specification to provide merely “a starting point, a direction for further research”; it must provide “reasonable detail” sufficient to enable a person of ordinary skill in the art to make or use the invention. *Automotive Technologies Intern., Inc. v. BMW of North America, Inc.*, 501 F.3d 1274, 1284 (Fed. Cir. 2007). Whether the enablement requirement has been satisfied is a question of law based upon underlying facts, and is determined as of the patent’s effective filing date. *Sitrick*, 516 F.3d at 999. A party must prove invalidity by non-enablement by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd.*, -- U.S. --, 131 S.Ct. 2238, 2242, 180 L.Ed.2d 131 (2011).

D. Legal Standard – Inequitable Conduct

Inequitable conduct, a judge-made doctrine, is an equitable defense to patent infringement that, if proved, prevents enforcement of a patent. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285 (Fed. Cir. 2011) (en banc). The Federal Circuit has described the remedy for inequitable conduct as the “atomic bomb” of patent law, as it is not claim specific (that is, inequitable conduct as to a single claim renders the entire patent unenforceable), it cannot be cured by reissue or reexamination, it can potentially spread to render related patents unenforceable, it may spawn anti-trust or unfair competition claims, and prevailing on a claim of inequitable conduct often makes a patent case “exceptional,” possibly leading to an award of attorneys fees to the prevailing party. *Id.* at 1288.

The party asserting inequitable conduct bears the burden of proof and must prove inequitable conduct “by clear and convincing evidence that the patent applicant (1) misrepresented or omitted information material to patentability, and (2) did so with specific intent to mislead or deceive the PTO.” *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1344 (Fed. Cir. 2013). Intent and materiality are separate requirements and both must be established. *Therasense*, 649 F.3d at 1290. A court must weigh the evidence of each independently and, importantly, cannot infer intent from materiality. *Id.*

With respect to intent, the Federal Circuit has noted that “direct evidence of deceptive intent is rare,” and, therefore, a court may infer intent from indirect and circumstantial evidence. *Id.* Nevertheless, under the clear and convincing standard, the court must find that the specific intent to deceive is “the single most reasonable inference able to be drawn from the evidence.” *Id.* If multiple reasonable inferences may be drawn, a specific intent to

deceive cannot be found. *Id.* at 1290-91. Further, the mere absence of a good faith explanation for the accused conduct does not, alone, prove an intent to deceive. *Id.* at 1291.

“[T]he materiality required to establish inequitable conduct is but-for materiality.” *Id.* Typically, “but-for materiality” is established by providing “proof that the patentee withheld or misrepresented information that, in the absence of the withholding or misrepresentation, would have prevented a patent claim from issuing.” *Ohio Willow Wood Co. v. Alps S, LLC*, 735 F.3d 1333, 1345 (Fed. Cir. 2013). However, a court may presume materiality upon evidence that “the patentee has engaged in affirmative acts of egregious misconduct, such as the filing of an unmistakably false affidavit.” *Therasense*, 649 F.3d at 1292.

E. Burden of Proof

Clear and convincing evidence is a higher burden of proof than preponderance of the evidence. *See Colorado v. New Mexico*, 467 U.S. 310, 316, 104 S.Ct. 2433, 81 L.Ed.2d 247 (1984). To be clear and convincing, evidence must “place[] in the factfinder ‘an abiding conviction that the truth of [the] factual contentions are highly probable.’ ” *Procter & Gamble Co. v. Teva Pharma. USA, Inc.*, 566 F.3d 989, 994 (Fed.Cir.2009) (quoting *id.*). Clear and convincing evidence should “instantly tilt[] the evidentiary scales” in favor of its proponent when weighed against the opposing evidence. *Colorado*, 467 U.S. at 310.

F. Whether Kobo Is Entitled To Summary Judgment Based On Lack Of Enablement

Kobo argues that Croda did not enable the ‘529 Patent because the patent does not teach a skilled artisan how to achieve substantial transparency, particularly in an end-use product, without undue experimentation. Kobo further asserts that the ‘529 Patent claims would cover any dispersion that achieves substantial transparency by whatever means, be it through advances in coating technology, discoveries with respect to superior pairings of

particular fluid carriers and particular dispersants, or advances and refinements in particle size ranges and particle size distribution, but it does not teach how to achieve transparency for the broad range of particle size, titanium dioxide concentrations and the multitude of dispersant-carrier combinations covered under the claims.

In support of its argument, Kobo points to a litany of items the specification allegedly lacks. These include the following allegations:

- The specification does not show how to formulate with a greater weight percentage of titanium dioxide in an end-use product without altering the appearance on skin, nor does it show how to create a sunscreen with optical properties in the visible region comparable to those of organic UV absorbers. Kobo Br. at 9.

- There are no measurements at all in the '529 Patent of the visible appearance as applied on skin of either the dispersions or the end-use product examples described in the specification. *Id.*

- The term “substantially transparent to visible light” is used in the patent only a few times. *Id.* at 10.

- The specification lists applications such as cosmetics and sun creams, but fails to teach the steps to be taken in an end-use formulation to measure substantial transparency for the range of dispersions claimed. *Id.*

- There is no instruction or suggestion of actions to avoid doing to obtain the claimed UV attenuation and substantial transparency. *Id.*

- There is no benchmark spelled out for an ordinarily skilled worker to reference, against which to measure whether the degree of transparency rises to the level of “substantially transparent.” *Id.*

- The disclosure in the specification pertaining to the optical properties for dispersions in each example is limited to three extinction coefficient values. *Id.*

- The specification only records two data points in the UV range of wavelengths, at 308 nm and at the $\lambda(\text{max})$, the wavelength where the extinction coefficient of UV light is greatest. The value of the extinction coefficient at $\lambda(\text{max})$ must be above 40 l/g/cm for the dispersion to meet the value specified in claim 1. The specification only records one data point, 524 nm, in the visible range of wavelengths (400 nm-700 nm). *Id.* at 10-11.

- The specification also does not describe the transparency of any finished sunscreen formulation. *Id.* at 11.

- There are no claims to end-use formulations, and the disclosure of finished formulations in the specification is confined to Examples 9-11. *Id.*

- The specification does not disclose any finished sunscreen with 20% or more titanium dioxide. *Id.*

- There are no measurements of the dispersion after incorporation into the end-use sunscreen to show an advance in transparency beyond what was already achievable in the prior art. *Id.*

- The '529 Patent does not show a transparency comparison in formulations using various particle sizes of titanium dioxide dispersions or with organic UV absorbers at any concentration.

- The '529 Patent specification refers only generally to milling “using a particulate grinding medium” of a type known to those skilled in that art at the time of the patent filing without any instruction on how the operation may affect transparency. *Id.*

- The specification discloses a preferred embodiment having a “narrow size distribution” of 80-100% spherical particles within the range of 10 nm to 150 nm but fails to disclose how to calculate this distribution and is silent as to why this distribution is “preferred.” *Id.* at 11-12.

- The specification teaches nothing about coating titanium dioxide particles in relation to reducing agglomeration and achieving transparency. *Id.* at 12.

- The '529 Patent does not speak at all to the issue of agglomeration. *Id.*

- The specification provides no guidance on whether the inventor’s references to “particle” in claim 1 meant primary particles or secondary particles, which would be understood to include aggregates and agglomerates and does not discuss when particle measurement is to take place. *Id.*

While, if nothing else, the list is impressive in its length, the Court agrees with Croda that merely identifying a laundry list of alleged defects in the '529 Patent is not sufficient to entitle Kobo to the summary judgment it seeks. With regard to enablement, Kobo’s initial burden on this motion is to present evidence that shows that at the time of the filing of the patent application one skilled in the art, having read the specification, could not practice the invention without undue experimentation. *See MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed.Cir. 2012) (“The specification must contain sufficient disclosure to enable an ordinarily skilled artisan to make and use the entire scope of the claimed invention at the time of filing.”). As Croda points out, Kobo has not met its burden. As an initial matter, the Court finds evidence lacking as to how the disclosures of the '529 Patent would be understood by one of skill in the art and, additionally, to what extent the allegedly missing items from the specification would not already be part of the knowledge of

a person skilled in the art. Kobo further fails to adequately explain how or why the allegedly missing information would be necessary for a person of ordinary skill in the art to practice the claimed invention. Importantly, although Kobo alleges that a skilled artisan would not have been able to practice the full scope of the claims without undue experimentation, Kobo has not established the extent of the experimentation that is required and why such experimentation would be anything other than routine.

Also, there are issues of material fact that preclude summary judgment on many of the issues raised in Kobo's motion. For example, much of Kobo's argument is built on the assertion that Croda's development of Tioveil and Solaveil and the refinement of the technology and its advances in transparency in the decade after the filing of the '529 Patent establishes that the dispersions of the '529 Patent were not substantially transparent. However, giving the Croda the benefit of all reasonable inferences, this argument ignores that the claims require only "substantial" transparency and not complete transparency, and that there may be differing degrees of transparency. At best, the record shows that there are genuine issues of material fact in this regard. In short, Kobo has failed to meet its burden to show that it is entitled to judgment as matter of law on the question of enablement.

G. Whether The Written Description Requirement Is Met

Kobo argues that the '529 Patent fails the written description requirement regarding the claim limitation "substantially transparent to visible light." In particular, Kobo asserts that the '529 Patent provides no indication that the dispersions tested achieved substantial transparency in use.

Compliance with the written description requirement is a question of fact and is only amenable to summary judgment "in cases where no reasonable fact finder could return a

verdict for the non-moving party.” *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1307 (Fed. Cir. 2008). Thus, given the applicable clear and convincing standard, Kobo has a particularly heavy burden on these motions, which it simply has not met with respect to written description. First, many of its written description arguments suffer from the same defects as its enablement contentions. Furthermore, disputes of fact preclude summary judgment on the question. For example, in response to Kobo’s arguments that there is no indication in the patent that the dispersions tested achieved substantial transparency in use, Croda points to evidence that substantial transparency was measured using an extinction coefficient. Although Kobo contends that this is an inappropriate measure, the issue is one for the factfinder to decide. Consequently, Kobo’s motion is denied as to written description.

H. Whether Patentee Engaged In Inequitable Conduct

Kobo moves for summary judgment declaring the ‘529 Patent unenforceable on the grounds that Croda committed inequitable conduct before the PTO during the reexamination of the ‘529 Patent. Specifically, Kobo alleges that the declaration of Dr. Tooley, upon which the examiner relied in allowing the claims, was misleading and was submitted with an intent to mislead the examiner. Kobo alleges that Croda, through Dr. Tooley’s declaration, misled the examiner as to (1) the importance of the method of making the claimed dispersion; (2) the state of the prior art on transparency and the ‘529 Patent’s contribution to the art with respect to substantial transparency; and (3) whether Sunstar used substances that functioned as dispersants and whether Sunstar’s ultrafine titanium dioxide was properly dispersed. The parties’ positions as to each of these are summarized below.

1. Importance of the Method of Making the Claimed Dispersion

Kobo alleges that Dr. Tooley misled the examiner as to whether “high shear milling” was required to make the claimed dispersions. Dr. Tooley distinguished the dispersions of the ‘529 Patent from Sunstar based on, among other things, the high shear bead milling used to make the claimed oil dispersion. *See* Tooley Decl., Sullivan Aff. Ex. O. Kobo claims Dr. Tooley led the examiner to believe that high speed milling was required to make a “proper dispersion,” but offered no support for his position that the Sunstar product was not dispersed correctly. According to Kobo, Dr. Tooley represented that one skilled in the art would understand from a review of the ‘529 Patent that because of “high speed milling and the presence of an organic dispersing agent,” the oil dispersion of the ‘529 Patent would be intrinsically stable and would result in dispersions with the high extinction coefficient and substantial transparency claimed in the ‘529 Patent. Kobo Br. at 8. Kobo claims that later Dr. Tooley “recanted” and admitted that using a dispersant does not necessarily make a dispersion stable and, further, he also disclaimed the need to use a high speed process by acknowledging at his deposition that it may be possible to create a suitable dispersion using a milling process other than that described in the ‘529 Patent.

In response, Croda contends that Kobo has failed to establish any unmistakably false statements in the Tooley declaration regarding the method of making the claimed invention. Croda argues that the Tooley declaration accurately describes the claimed invention and did not distinguish the claimed invention solely on how the claimed oil dispersions were made. Further, Croda points out that high shear milling was discussed in the context of Sunstar to identify and explain reasons why the claimed optical properties were not necessarily present in the Sunstar cosmetic formulations. *See* Sullivan Aff., Ex. O. Croda also argues that taken

in the proper context, nothing later said by Dr. Tooley was a contrary admission or disclaimer of anything said in his declaration.

2. The '529 Patent's Contribution to the Prior Art

Kobo contends that Croda, through the declaration of Dr. Tooley, misled the examiner with respect to the Sunstar's optical properties and misled the examiner with respect to the '529 Patent's contribution to the art with respect to substantial transparency.

As to the latter, Kobo claims Dr. Tooley misled the PTO when he stated that the dispersion of the '529 Patent "does not add its own color or pigmentation to the end-use product," as the words "color" or "pigmentation" or similar words do not appear in the '529 Patent. Kobo then goes on to argue, similar to its arguments with respect to its invalidity motion, that the claimed invention and subsequent commercial embodiments were not substantially transparent. In response, Croda argues that the evidence is more than sufficient to establish that the claimed invention and its commercial embodiments were substantially transparent as required by the claims of the '529 Patent. Dr. Tooley, for example, testified to that effect at his deposition. Tooley Dep. 192:10 to 193:22.

With regard to Sunstar's optical properties, Kobo alleges that Dr. Tooley made misstatements in representing the inability to measure the transparency and UV properties of Sunstar. Croda responds that Kobo distorts the meaning of Dr. Tooley's declaration and mischaracterizes his deposition testimony.

3. Sunstar Dispersants and Dispersion of Particles

Kobo claims that Dr. Tooley misled the examiner on the proper construction of the term "organic dispersing agent" and asserted that 12-hydroxystearic acid, used in Sunstar was not an organic dispersing agent even though Croda argued (and prevailed) in claim

construction for a very broad functional definition of dispersing agent and Dr. Tooley never did any tests to determine if 12-hydroxystearic acid functioned as a dispersant. Croda responds that, consistent with its argued-for claim construction, Dr. Tooley described the dispersing agent based on its function, and further explained why the agents in Sunstar were not the same as the claimed dispersing agents.

4. Whether Plaintiff Engaged In Inequitable Conduct

Having carefully reviewed the evidence of record, the Court finds that Kobo has not met its exceedingly high burden to show that it is entitled to judgment as a matter of law on its claim of inequitable conduct. *See Ohio Willow Wood Co.*, 735 F.3d at 1344 (must show “by clear and convincing evidence that the patent applicant (1) misrepresented or omitted information material to patentability, and (2) did so with specific intent to mislead or deceive the PTO.”) As an initial matter, the Court finds that there are issues of fact regarding alleged falsity of many of the statements to which Kobo points that must be resolved by the factfinder. Viewing the alleged misstatements in the appropriate context and in light of other evidence, and drawing all justifiable inference in favor of Croda as the Court must, *Hunt*, 526 U.S. at 552, the Court finds issues of fact exist precluding summary judgment.

Furthermore, as Croda points out, Kobo’s materiality and intent arguments are based solely on the alleged falsity of the statements in Dr. Tooley’s declaration. With respect to intent in particular, the Court finds that fact issues preclude summary judgment. For example, in his declaration, Dr. Tooley asserted that he believed the facts therein to be true at the time he executed the declaration, Tooley Decl. at 9, and there is no evidence that he or anyone at Croda actually believed them to be false. *See Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1332 (Fed. Cir. 2009) (“[R]egardless of whether the statement is actually false,

[declarant] believed the statement to be true at the time that he made it. With no other evidence in the record, the district court correctly found that [movant] made no genuine showing of deceptive intent.”). Kobo’s motion for summary judgment is, therefore, denied.

III. CONCLUSION

For the reasons above, Kobo’s motions are denied. An appropriate Order accompanies this Opinion.

/s/ Joel A. Pisano
JOEL A. PISANO, U.S.D.J.

Dated: February 13, 2015